



# Clinical Utility of Tamiflu® Restriction Policy

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## INTRODUCTION

- Inappropriate use of Tamiflu® and antibiotics for upper respiratory tract infections may increase risk of microbial resistance.
- Tamiflu® is restricted and requires Infectious diseases (ID) consult at Ascension St. John for continued use beyond the first 24 hours.
- We assessed the impact of Infectious Diseases (ID) consult on the management of Tamiflu® and concomitant antibiotics.

## METHODS

**Design:** Single-center retrospective quality assurance/quality improvement project.

**Inclusion:** All patients >17 years old admitted to the Ascension St. John Hospital who received Tamiflu® from October 1<sup>st</sup>, 2018 to May 1<sup>st</sup>, 2019.

**Exclusion:** <24 hours admission.

### Definition:

- Appropriate Tamiflu® Interventions:** continuation/discontinuation of Tamiflu® corresponding with rapid flu test and/or respiratory viral panel.
- Appropriate Antibiotics Interventions:** continuation/discontinuation of antibiotics corresponding with sputum and/or blood culture and clinical diagnosis within 48 hours of Tamiflu® initiation.
- Non-Evaluable:** no blood culture and/or sputum culture drawn; thus antibiotic continuation/discontinuation was based on clinical judgement only.

### Data collection:

- Demographics (age, gender, race)
- Length of hospital stay (LOS)
- Discharge disposition.
- Laboratory Data
  - ✓ Rapid flu tests
  - ✓ Respiratory viral panels
- Microbiologic Data
  - ✓ Sputum cultures
  - ✓ Blood cultures
- Treatment (antibiotics prescribed and duration)

## STATISTICAL METHODS

- Descriptive statistics used to characterize the study population.
- Continuous variables described as the mean ± SD or median with range.
- Categorical variables described as frequency distributions.

The project was approved by Ascension St. John Institutional Review Board.

## RESULTS

Figure 1. Study Subjects

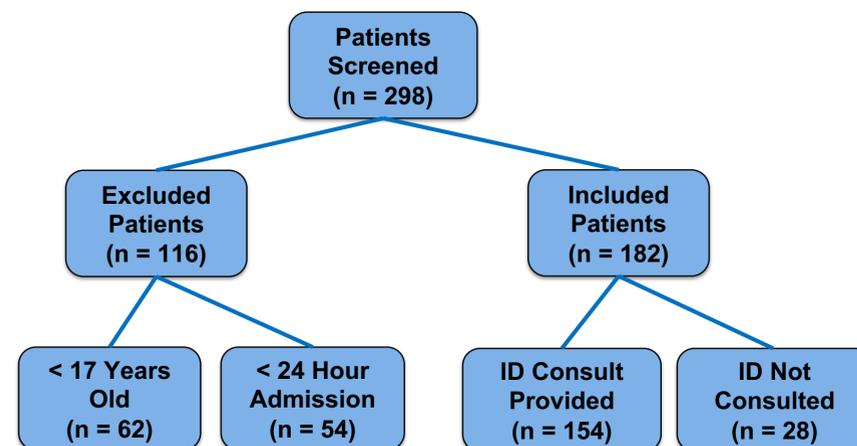


Table 1. Patient Characteristics

	ID Consulted (n = 154)	ID Not Consulted (n = 28)	P-value
Age mean (yrs.)	59	52	0.13
Males, n (%)	59 (38.3)	10 (35.7)	0.79
LOS mean (days)	5.4 +/- 4.8	3 +/- 4.59	0.01
CWIC	1.7 +/- 1.7	0.9 +/- 1.2	0.02
African Americans, n (%)	102 (66.2)	18 (64.3)	0.39
Rapid flu test positive, n (%)	114 (74)	15 (53.6)	0.28
Positive respiratory viral panel, n (%)	18 (11.7)	2 (7.1)	0.48
Sputum culture positive, n (%)	8 (5.2)	0 (0)	
Blood culture positive, n (%)	5 (3.2)	0(0)	
Antibiotics received, n (%)*	87 (56.5)	10 (35.7)	0.04
Discharge disposition, n (%)			
Home	120 (77.9)	26 (92.8)	
Facility	29 (18.8)	2 (7.1)	
AMA	2 (1.3)	0	
Deceased	3 (1.9)	0	

\*Only antibiotics prescribed for respiratory infections and bacteremia were included

Figure 2. Appropriate Tamiflu® Interventions

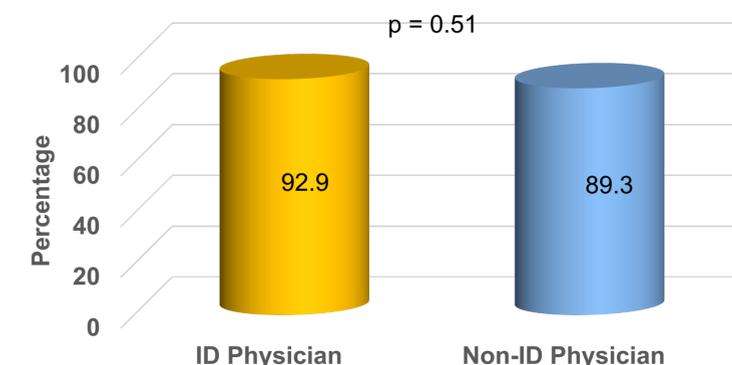


Figure 3. Antibiotics Interventions (%)

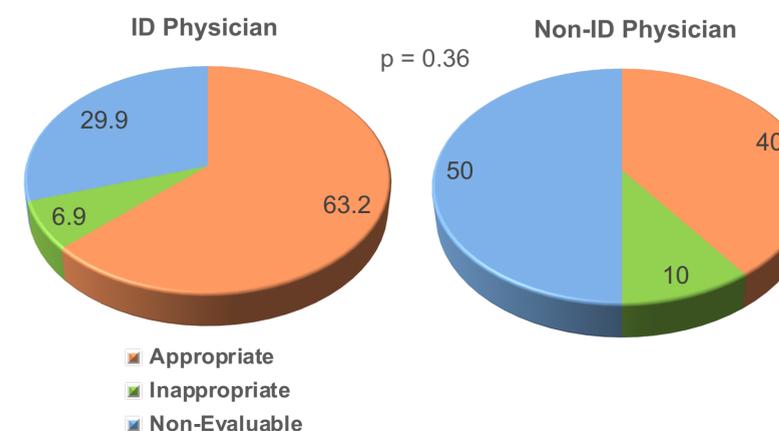
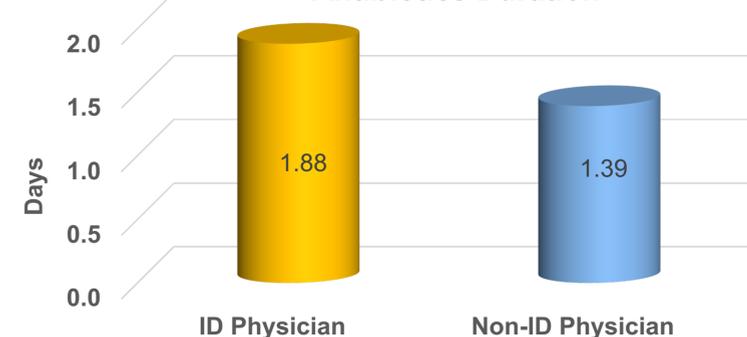


Figure 4. Antibiotics Duration



## DISCUSSION

- Tamiflu® Interventions were very similar both groups
- There was a higher percentage of appropriate antibiotic interventions in the ID Physician group
- Duration of antibiotics was >35% higher in ID Physician group compared to Non-Physician.
  - This may be secondary to higher severity of illness and longer LOS

## CONCLUSIONS

- Tamiflu® prescribing was similar by ID and Non-ID physicians.
- However, appropriate antibiotics interventions were more frequent in ID physician group.

## LIMITATIONS

- Small sample size in Non-ID Physician group.
- Tamiflu® interventions based on renal function was not assessed.
- Radiologic findings were not included.
- Severity of illness was lower in Non-ID group.

## FUTURE DIRECTIONS

- We will continue the policy of requiring ID consult for patients with Tamiflu to ensure appropriate antibiotic interventions.

## REFERENCES

- Moscona A. Oseltamivir Resistance - Disabling Our Influenza Defenses. *N England Journal of Medicine*. 2005; 353:2633-2636.
- Uyeki M, Bernstein H, Bradley S et al. Clinical practice guidelines by the Infectious Diseases Society of America: 2018 update on diagnosis, treatment, chemoprophylaxis, and institutional outbreak management of seasonal influenza. *Clin Infect Dis*. 2019;68(6):895-902.
- Oseltamivir (Tamiflu)/Zanamivir (Relenza) Restrictions/Criteria for Use. Retrieved 06/17/2019. Official copy at <http://ascension-stjohn.policystat.com/policy/4934528/>. Copyright © 2019 St. John Hospital.

None of the authors have anything to disclose.